S-E-C-R-E-T

CIA/RR EP 64-60

Additions to Capacity at Individual Electric Powerplants in the USSR: Actual 1963, Planned 1964

14 September 1964

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FOREWORD

The present compilation summarizes accomplishments of the electric power industry in 1963 and lists known or estimated additions to capacity at individual powerplants. It also presents similar data pertaining to plans for 1964.

The compilation has been prepared by the [redacted] 25X1

25X1 [redacted] Research and Reports, CIA, as a working aid. It has not been coordinated with other intelligence components and is not intended to be an official CIA estimate.

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Additions to Capacity at Individual Electric Powerplants in the USSR: Actual 1963, Planned 1964

I. Additions to Capacity in 1963

A. Over-all Accomplishments

	Plan	Actual
According to the Soviet press:		
Electric power production	407.9 billion kwh	412 billion kwh
New capacity to be commissioned	9.6 million kw	10 million kw
of which hydro	1.9 million kw	2.1 million kw

33 units of 100, 150, 200, and 300 mw each were installed in thermal powerplants, with a total capacity of over 5,000 mw.

At the end of 1963 there were 53 units of 150, 200, and 300 mw each installed in thermal powerplants.

	End 1962	End 1963
Total capacity	82,461 mw	92,853 mw
of which hydro	18,622 mw	20,730 mw

B. New Powerplants Known or Estimated to Have Begun Operation in 1963

Plant	Location Coordinates	Region
Borisoglebskaya GES	69-39N; 30-08E	I
Dneprodzerzhinsk GES	48-32N; 34-38E	III
Yerevan TETs	40-11N; 44-30E*	V
Tbilisi GRES	41-28N; 45-05E*	V
Zainsk GRES	55-17N; 52-02E	VI
Moscow TETs 21	55-50N; 37-30E	VII
Kirov TETs 4	58-33N; 49-42E	VII
Yayva GRES	59-20N; 57-14E	VIII
West Siberia Metallurgical TETs	53-34N; 87-15E	IX
Dzhambul TETs 2	42-54N; 71-22E**	X
Guryev TETs	47-07N; 51-53E**	X
Turgay TETs	50-03N; 65-08E**	X
Navoi TETs	40-09N; 65-22E*	X
Tashkent GRES	41-20N; 69-18E**	X

* Approximate coordinates.
** Town coordinates.

C. Large Thermal Electric Generating Units Known or Estimated to Have Been Installed in 1963

300 mw Units		
Cherepet GRES	1 x 300	
Pridneprovskaya GRES	1 x 300	
Total	2	600 mw
200 mw Units		
Pribaltyk GRES	1 x 200	
Zmiyev GRES	1 x 200	
Lugansk GRES	1 x 200	
Starobeshevo GRES	2 x 200	
Zainsk GRES	2 x 200	
Tom Usinsk GRES	1 x 200	
Total	8	1,600 mw
150 mw Units		
Berezova GRES	1 x 150	
Litovsk GRES	1 x 150	
Dobrotvor GRES	1 x 150	
Krasnodar TETs	2 x 150	
Ali Bayramly GRES	1 x 150	
Tbilisi GRES	1 x 150	

150 mw Units (Continued)		
Yayva GRES	1 x 150	
Petropavlovsk TETs 2	1 x 150	
Tashkent GRES	1 x 150	
Nazarovo GRES	1 x 150	
Zaozernyy GRES	1 x 150	
Total	12	1,800 mw
100 mw Units		
Kirovsk GRES	1 x 100	
Minsk TETs 3	1 x 100	
Moscow TETs 20	2 x 100	
Moscow TETs 21	2 x 100	
Karaganda GRES 2	1 x 100	
Frunze TETs	1 x 100	
Angren GRES	1 x 100	
Norilsk TETs	1 x 100	
Artem GRES	1 x 100	
Total	11	1,100 mw
Grand Total	33	5,100 mw

D. Regional Listing of Generating Units Known or Estimated to Have Been Installed in 1963*

Plant	Thermal Units	Total MW
Region I		
Kirovsk GRES	1 x 100	100
Leningrad TETs 1	1 x 18	18
Leningrad TETs 14	1 x 50	50
Vorkuta TETs 2	1 x 50	50
Total		218
Region II		
Byelorussia		
Polotsk TETs 2	1 x 50	50
Minsk TETs 3	1 x 100	100
Berezova GRES	1 x 150	150
Vasilevichi GRES	1 x 50	50
Total		350

* The total capacity known or estimated to have been installed in individual powerplants adds up to 9,209 mw or 1,183 mw less than the total increase of 10,392 mw. However, in the past few years between 500 and 1,000 mw a year have been installed in small powerplants. The additions to capacity also include the rerating of units to the extent of 300-400 mw a year.

Thermal (Continued)

Plant	Units	Total MW
Estonia		
Tallin TETs	1 x 25	25
Pribaltyk GRES	1 x 200	200
Total		225
Lithuania		
Litovskaya GRES	1 x 150	150
Region III		
Ukraine		
Pridneprovskaya GRES	1 x 300	300
Zmiyev GRES	1 x 200	200
Kiyev TETs 2	1 x 25	25
Dobrotvor GRES	1 x 150	150
Krivoy Rog TETs 2	1 x 25	25
Lisichansk TETs	1 x 25	25
Lugansk GRES	1 x 200	200
Starobeshevo GRES	2 x 200	400
Moldavia		
Alexandreny Sugar Refinery TETs	1 x 6	6
Total		1,331

Thermal (Continued)

Plant	Units	Total MW
Region IV		
Krasnodar TETs	2 x 150	300
Region V		
Yerevan TETs	3 x 50	150
Ali Bayramly GRES	1 x 150	150
Tbilisi GRES	1 x 150	150
Rustavi TETs	1 x 50	50
Total		500
Region VI		
Novokuibyshev TETs 2	1 x 50	50
Balakhovo TETs	1 x 50	50
Volzhsk TETs	1 x 50	50
Zainsk GRES	2 x 200	400
Total		550
Region VII		
Mosenergo		
Moscow TETs 9	1 x 50	50
Moscow TETs 20	2 x 100	200
Moscow TETs 21	2 x 100	200
Moscow TETs 22	2 x 50	100
Cherepetsk GRES	1 x 300	300
Total		850

Thermal (Continued)

Plant	Units	Total MW
Central and Black Earth		
Novo Vladimir TETs	1 x 50	50
Volga Vyatka		
Novo Gorkiy TETs	1 x 50	50
Kirov TETs 4	1 x 50	50
Total		100
Region VIII		
Magnitogorsk TETs 3	1 x 50	50
Yaiva GRES	1 x 150	150
Salavat TETs	1 x 50	50
Kurgan TETs	1 x 50	50
Tyumen TETs	1 x 50	50
Kachkanar TETs	1 x 25	25
Total		375
Region IX		
Barnaul TETs 2	1 x 50	50
W. Sib. Metall. TETs	1 x 50	50
Kom Usinsk GRES	1 x 200	200
Novokemerovo TETs	1 x 50	50
Total		350

Thermal (Continued)

Plant	Units	Total MW
Region X		
Kazakhstan		
Turgay TETs	1 x 25	25
Guryev TETs	2 x 25	50
Dzezhkazgan TETs	1 x 25	25
Topar Karaganda GRES 2	1 x 50	450
Pavlodar TETs 2	1 x 50	50
Dzhambul TETs 2	2 x 25	50
Petropavlovsk TETs 2 Refinery TETs	1 x 150	150
Total		500
Central Asia		
Frunze TETs	1 x 50 1 x 100	150
Dushambe TETs	1 x 6	6
Chardzhou TETs	1 x 12	12
Fergana TETs 2	1 x 50	50
Navoi GRES	2 x 25	50
Takhia Tash GRES	1 x 12	12
Angren GRES	1 x 100	100
Tashkent GRES	1 x 150	150
Total		530

Thermal (Continued)

Plant	Units	Total MW
Region XI		
Ulan Ude TETs	1 x 50	50
Nazarovo GRES	1 x 150	150
Zaozernyy GRES	1 x 150	150
Angarsk Refinery TETs	2 x 50	100
Norilsk TETs	1 x 100	100
Guzinoozersk TETs	1 x 4	4
Total		554
Region XII		
Raychikhinsk TETs	1 x 12	12
Magadan TETs	1 x 6	6
Komsomolsk TETs 2	1 x 50	50
Artem GRES	1 x 100	100
Total		168
Total Thermal		7,101

	Hydro Units	Total MW
Region I		
Borisoglebsk GES	2 x 28	56
Belomorsk GES	2 x 9.4	18.8
Region III		
Dneprodzherzhinsk GES	2 x 44	88
Region V		
Khrame GES 2	1 x 55	55
Region VIII		
Votkinsk GES	4 x 100	400
Region X		
Golovnaya GES	4 x 35	140
Region XI		
Bratsk GES	6 x 225	1,350
Total Hydro		2,108
Total Thermal and Hydro		9,209

II. Planned Additions to Capacity in 1964

A. Over-all Plans for 1964

According to the Soviet press:

Electric power production	452 billion kwh
New capacity to be commissioned during 1964 and 1965	21 million kw
of which thermal	18.9 million kw
hydro	2.1 million kw

36 units of 100-300 mw each will be commissioned in 1964, including:

6 units of 300 mw each

30 units of 100, 150, and 200 mw each.

It is planned to increase the capacity of operating power-plants by 400 mw through modernization.

	End 1963	End 1964 Estimated
Total capacity	92,853 mw	104,044 mw
of which thermal	72,123 mw	82,500 mw
of which hydro	20,730 mw	21,544 mw

B. New Powerplants Scheduled to Begin Operation in 1964*

Plant	Location Coordinates	Region
Verkhne Tuloma GES	68-49N; 32-49E	I
Cherepovets GES	59-05N; 37-55E	I
Plyavinskaya GES	56-38N; 25-20E	II
Dneprodzerzhinsk TETs Fertilizer Plant	48-29N; 34-40E	III
Krivoy Rog GRES 2	47-40N; 33-42E	III
Burshtyn GRES	49-16N; 24-38E***	III
Kiyev GES	50-27N; 30-32E	III
Kuchurgan GRES	46-37N; 29-56E	III
Novocherkassk GRES	47-28N; 40-10E**	IV
Razdan TETs	40-13N; 44-44E***	V
Kirovabad TETs	40-41N; 46-22E***	V
Sumgait TETs 2	40-36N; 49-38E**	V
Konakovo GRES	56-42N; 36-50E***	VII
Voronezh Nuclear	51-18N; 39-13E	VII
Beloyarsk Nuclear	56-49N; 61-21E	VIII
Belovo GRES	54-26N; 86-25E	IX
Chardarinsk GES	41-17N; 67-55E	X
Kyzyl Orda TETs	44-50N; 65-30E***	X
Pavlodar TETs 1	52-17N; 76-57E***	X

Plant	Location	
	Coordinates	Region
Petropavlovsk TETs 1	54-55N; 69-10E**	X
Tsentralnaya GES	37-57N; 69-00E**	X
Nebit Dag TETs	39-30N; 54-22E	X
Krasnovodsk TETs 2	40-00N; 53-00E***	X
Bratsk TETs	56-00N; 101-00E**	XI
Chita GRES	52-02N; 113-25E	XI
Petropavlovsk TETs	53-01N; 158-39E***	XII

* It was stated in the Soviet press that 16 new powerplants will begin operation in 1964. However, analysis of the plant files indicates that 26 powerplants are scheduled to go into operation in 1964. The Soviet planners may be allowing for some of these plants to fall behind schedule, or may be counting only plants over a certain size.

** Approximate coordinates.

*** Town coordinates

C. Large Thermal Electric Generating Units Scheduled to Be Installed in 1964

300 mw Units		
Pridneprovskaya GRES	1 x 300	
Krivoy Rog GRES	1 x 300	
Burshtyn GRES	1 x 300	
Novocherkassk GRES	1 x 300	
Cherepet GRES	1 x 300	
Konakovo GRES	1 x 300	
Troitsk GRES	1 x 300	
Total	7	2,100 mw
200 mw Units		
Pribaltyk GRES	1 x 200	
Kuchurgan GRES	1 x 200	
Zmiyev GRES	2 x 200	
Lugansk GRES	1 x 200	
Stavobeshevo GRES	1 x 200	
Zainsk GRES	1 x 200	
Shchekino GRES	1 x 200	
Verkhne Tagil GRES	1 x 200	
Belovo GRES	2 x 200	
Tom Usinsk GRES	1 x 200	
Total	12	2,400 mw

150 mw Units		
Bereza GRES	1 x 150	
Vievis Litovsk GRES	1 x 150	
Dobrotvor GRES	1 x 150	
Nevinnomysk TETs	1 x 150	
Ali Bayramly GRES	1 x 150	
Tbilisi GRES	1 x 150	
Yeyva GRES	1 x 150	
Navoi GRES	2 x 150	
Tashkent GRES	1 x 150	
Nazarovo GRES	2 x 150	
Zaozernyy TETs	1 x 150	
Total	13	1,950 mw
100 mw Units		
Minsk TETs 3	1 x 100	
Kashira GRES	1 x 100	
Moscow TETs 21	1 x 100	
Kurgan TETs	1 x 100	
Karaganda GRES 2	2 x 100	
Frunze TETs	1 x 100	
Artem GRES	1 x 100	
Beloyarsk Nuclear	1 x 100	
Total	9	900 mw
Grand Total	41	7,350 mw

D. Regional Listing of Generating Units Scheduled to Be Installed in 1964

Thermal

Plant	Units	Total MW Planned	Total MW Installed
Region I			
Pikolevo TETs	1 x 12	12	
Leningrad GES 1	1 x 36	36	36
Sokol TETs	1 x 12	12	
Total		60	
Region II			
Byelorussia			
Vasilivichi GRES	1 x 50	50	
Polotsk TETs	1 x 50	50	
Minsk TETs 3	1 x 100	100	
Bereza GRES	1 x 150	150	
Total		350	
Estonia			
Pribaltyk GRES	1 x 200	200	
Lithuania			
Vievis Litovskaya GRES	1 x 150	150	

Thermal (Continued)

Plant	Units	Total MW Planned	Total MW Installed
Region III			
Moldavia			
Kuchurgan GRES	1 x 200	200	
Ukraine			
Pridneprovskaya GRES	1 x 300	300	
Dneprodzerzhinsk Fert. TETs	1 x 50	50	
Krivoy Rog GRES	1 x 300	300	
Krivoy Rog TETs 2	1 x 25	25	
Kharkov TETs 3	1 x 50	50	
Zmiyev GRES	2 x 200	400	200
Dobrotvor GRES	1 x 150	150	150
Lugansk GRES	1 x 200	200	
Starobeshevo GRES	1 x 200	200	
Burshtyn GRES	1 x 300	300	
Total		1,975	
Region IV			
Novocherkassk GRES	1 x 300	300	
Nevinnomysk TETs	1 x 150	150	150
Total		450	

Thermal (Continued)

Plant	Units	Total MW Planned	Total MW Installed
Region V			
Armenia			
Yerevan TETs	2 x 50	100	
Kirovakan TETs	1 x 12	12	
Razdan TETs	1 x 50	50	
Total		162	
Azerbaijan			
Ali Bayramly GRES	1 x 150	150	150
Kirovabad TETs	1 x 25	25	25
Sumgait TETs	1 x 50	50	
Total		225	
Georgia			
Tbilisi GRES	1 x 150	150	150
Region VI			
Stavropol TETs	2 x 50	100	50
Novo Kuibyshev TETs 2	1 x 50	50	
Volzhsk TETs	1 x 50	50	
Zainsk GRES	1 x 200	200	
Kazan TETs 2	1 x 50	50	
Balakhovo TETs	1 x 50	50	
Total		500	

Thermal (Continued)

Plant	Units	Total MW Planned	Total MW Installed
Region VII			
Kashira GRES	1 x 100	100	
Shchekino GRES	1 x 200	200	
Moscow TEIs 11	1 x 50	50	
Moscow TEIs 16	1 x 50	50	
Moscow TEIs 21	1 x 100	100	
Dorogobuzh GRES	1 x 50	50	
Cherepet GRES	1 x 300	300	
Konakovo GRES	1 x 300	300	
Novo Vladimir TEIs	1 x 50	50	
Kirov TEIs 4	1 x 50	50	
Novo Voronezh Nuclear	3 x 70	210	
Novo Ryazan TEIs	2 x 50	100	
Cheboksary TEIs	1 x 50	50	
Yaroslavl TEIs 3	1 x 50	50	
Novo Gorkey TEIs	1 x 50	50	
Dzerzhinsk TEIs	1 x 50	50	
Total		1,760	

Thermal (Continued)

Plant	Units	Total MW Planned	Total MW Installed
Region VIII			
Chelyabinsk TETs 2	1 x 50	50	50
Troitsk GRES	1 x 300	300	
Yayva GRES	1 x 150	150	150
Sterlitamsk TETs New	1 x 50	50	
Orsk Novo-Troitsk TETs	1 x 50	50	
Orsk TETs 1	1 x 50	50	
Kurgan TETs	1 x 100	100	100
Perm TETs 10	1 x 50	50	
Tyumen TETs	1 x 50	50	
Kachkanar TETs	1 x 25	25	
Verkhne Tagil GRES	1 x 200	200	
Beloyarsk Nuclear	1 x 100	100	100
Solikamsk TETs	1 x 25	25	
Total		1,200	
Region IX			
Barnaul TETs 2	1 x 50	50	
Novo Kemerovo TETs 3	1 x 50	50	
W. Sib. Metall. TETs	1 x 50	50	
Belovo GRES	2 x 200	400	200
Tom Usinsk GRES	1 x 200	200	200
Omsk TETs 3	1 x 50	50	
Total		800	

Plant	Units	Total MW Planned	Total MW Installed
Region X			
Kazakh			
Sogrinsk TETs	1 x 50	50	
Ust Kemenogorsk TETs	1 x 25	25	
Balkhash TETs	1 x 50	50	
Kzyl Orda TETs	2 x 12	24	24
Guryev TETs	1 x 25	25	
Topar Karaganda GRES 2	2 x 100	200	
Turgay TETs (Arkalyk)	1 x 25	25	
Alma Ata GRES	1 x 50	50	
Petropavlovsk TETs 2	1 x 50	50	
Rudnyy TETs	1 x 25	25	25
Petropavlovsk TETs 1	1 x 50	50	
Pavlodar TETs 1	1 x 50	50	50
Total		624	
Central Asia			
Nevoi GRES	2 x 150	300	
Yakhia Tash GRES	1 x 12	12	12
Tashkent GRES	1 x 150	150	
Fergana TETs 2	1 x 50	50	

Plant	Units	Total MW Planned	Total MW Installed
Central Asia (Continued)			
Frunze TETs	1 x 100	100	
Dushambe TETs	1 x 50	50	
Nebit Dag TETs	2 x 12	24	
Ashkhabad-Bezmein GRES	1 x 25	25	
Total		711	
Region XI			
Chita GRES	1 x 50	50	
Chulman TETs	1 x 12	12	
Korshunovo TETs	1 x 12	12	
Bratsk TETs	1 x 50	50	
Nazarovo GRES	2 x 150	300	
Usolye TETs	1 x 50	50	
Zaozernyy GRES	1 x 150	150	
Total		624	
Region XII			
Raychikhinsk TETs	1 x 12	12	
Petropavlovsk (Kamchatka) TETs	1 x 12	12	
Khabarovsk TETs	1 x 50	50	
Orkhagala TETs	1 x 12	12	
Artem GRES	1 x 100	100	100
Komsomolsk TETs	1 x 50	50	
Total		236	
Total Thermal		10,237	

Hydro

Plant	Units	Total MW Planned	Total MW Installed
Region I			
Verkhne Tuloma GES	1 x 50	58	
Cherepovets GES	2 x 20	40	
Region II			
Plyavinas GES	2 x 82	164	
Region III			
Dneprodzerzhinsk GES	6 x 44	264	
Kiyev GES	4 x 16	64	
Region X			
Bukhtarma GES	2 x 77	154	
Chardarinsk GES	2 x 25	50	
Tsentralnaya GES	1 x 20	20	
Total Hydro		814	
Total Thermal and Hydro		11,191	